EECO 880A

VLF AND LORAN-C RECEIVERS

Compare, correct local oscillator output frequencies. ....Page 4

EECO 911

TIME CODE GENERATORS

10 models ....Page 2

EECO 783

DATA HANDLING EQUIPMENT

A-D and D-A converters, multiplexers, magnetic core memories ....Page 3

EECO 883

FREQUENCY SYNTHESIZER

Square, triangular and sine wave output for lab or field use ....Page 4

EECO 746

BATTERY BACK UP

Uninterrupted AC sine wave power in case of line power failure ....Page 4

PRODUCT SUMMARY september 1965

EECO 851A/852

SEARCH AND CONTROL SYSTEMS

Automatic location of magnetic tape data ....Page 3

EECO 755

DATA RECORDING SYSTEM

Digitizes up to 200 analog inputs and records on IBM computer tape ....Page 3
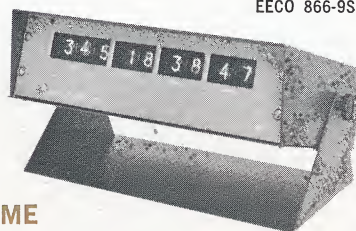
EECO 866-9S

TIME DISPLAY UNITS

Remote time display in seconds, minutes, hours, days ....Page 3

PUNCHED TAPE BLOCK READERS

and spooler. Read up to 160 bits at one time ....Page 4
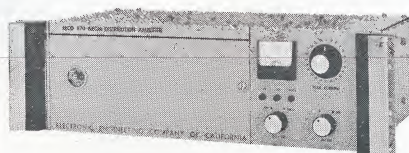
EECO 870

TIMING SYSTEM AUXILIARY EQUIPMENT

Line drivers, terminal units, precision delay units, slow code scanners, count down clock ....Page 2
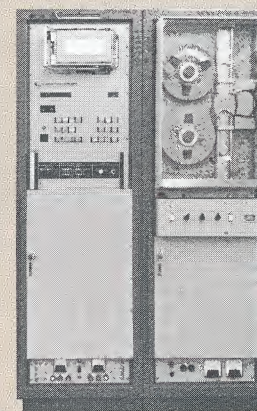
EECO 751

FORMAT CONTROL BUFFERS

High speed conversion of digital or analog inputs to IBM computer tape ....Page 3

SYSTEMS

Special data processing and timing systems. Over 15 years of R & D experience.

Electronic Engineering Company
of California

TIME CODE GENERATORS
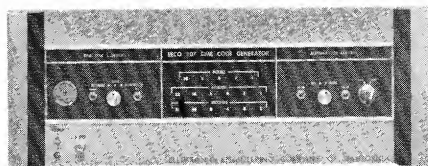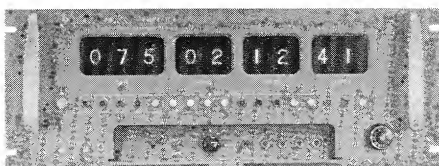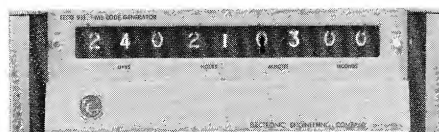
| CODE	FRAME LENGTH	SCAN RATES	CARRIER FREQUENCY	PULSE RATES	MODEL NUMBER
Hours, minutes, seconds, 24-bit BCD	1 sec	25, 50 or 100 pps	1 kc	8 rates from 100 k pps to 1 pps	EECO 806
AMR, B_1, B_2, C_1, C_2, D_1, D_5, hours, minutes, seconds, 17-bit binary	20 sec 1 sec 1 sec	1 pps 20 pps 100 pps	1 kc	7 rates from 100 k pps to 1 pps	EECO 807
Hours, minutes, seconds, 20-bit, BCD	1 sec	25 pps	250 cps	None	EECO 808
IRIG Formats A, B, C, D, E. Days, hours, minutes, seconds. 34-bit, 30-bit, 23-bit 16-bit BCD	0.1 sec 1 sec 10 sec 1 min 1 hr	1000 pps 100 pps 10 pps 2 pps 1 ppm	10 kc 1 kc 1 kc or 100 cps 1 kc or 100 cps 1 kc or 100 cps	1 mc, 10 pps, 1 pps	EECO 811
NASA Formats Days, hours, minutes, seconds, 36-bit, 28-bit, 20-bit, BCD	1 second 1 minute 1 hour	100 pps 2 pps 1 ppm	1 kc 1 kc or 100 cps 100 cps	1 mc, 1 pps	EECO 812
Hours, minutes, seconds 20-bit	Parallel time code only	—	(60 cycle frequency source)	6 rates from 100 pps to 1 ppm	EECO 815
Hours, minutes, seconds 20-bit	1 sec 10 sec	25 pps 5 pps	Carrier output optional	6 rates from 100 pps to 1 ppm	EECO 816
Hours, minutes, seconds 20-bit	Parallel only	—	(external 100 kc)	5 rates from 10 kc to 1 pps	EECO 817
IRIG, NASA and AMR Formats Days, hours, minutes, seconds	0.1 sec 1 sec 10 sec 1 min 1 hr	1000 pps 100 pps 10 pps 2 pps 1 ppm	10 kc 1 kc 1 kc or 100 cps 1 kc or 100 cps 1 kc or 100 cps	1 mc, 10 pps, 1 pps	EECO 911 (Integrated Circuit)

TIME CODE GENERATOR/READER
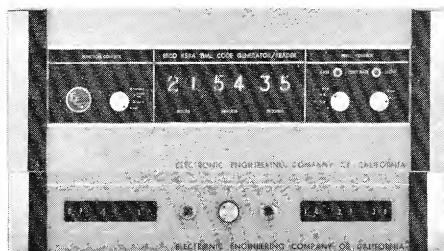
Generates and displays 20-bit 24 hour time code. Reads and displays hours, minutes and seconds portion of IRIG B format. Simultaneous slow code output for graphic recorders.

Combination TCG and Time Display. Modified IRIG B hours, minutes, seconds. 20-bit BCD	1 sec Slow code: 5 sec or 1 min	100 pps 10 pps 1 pps	1 kc — —	1000 pps, 100 pps, 10 pps, 1 pps	EECO 858A


# TIMING SYSTEM AUXILIARY EQUIPMENT
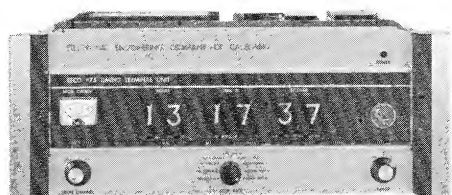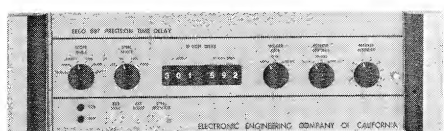
Remote Time Display Units. Wall or rack mounting units to display time. Input either parallel or serial time code.	EECO 865 EECO 866 EECO 867 EECO 869
Neon Distribution Amplifier. Amplifier for driving 24 camera neon lamps for displaying serial time code on motion picture film. Readily drives NE-2J neons.	EECO 870
Universal Timing Amplifier. Multiple amplifier for all time codes and pulse rates.	EECO 871
Terminal Timing Unit. Modifies basic timing codes into variety of special codes, pulse rates and amplified outputs for use by various instrumentation.	EECO 875
Slow Code Scanner. Generates slow code rates by scanning EECO 875 or Time Code Generator.	EECO 876
Precision Time Delay. Delays 1 pps sync pulses in 1 microsecond steps. For time synchronization.	EECO 886 EECO 887
Count Down Clock. Displays the time in hours, minutes and seconds before zero or "fire" time and after zero time. 5 digits and sign.	EECO 32575

EECO 807

EECO 811

EECO 816

EECO 911

EECO 858A

EECO 875

EECO 887

DATA HANDLING EQUIPMENT

|	
Format Control Buffer. 36-bit digital or analog inputs converted to IBM computer tape.	EECO 751-1
Format Control Buffer. Same as 751-1 but uses IBM 729 tape unit.	EECO 751-2
Format Control Buffer. 12-bit digital or analog inputs converted to IBM computer tape.	EECO 751-3
Format Control Buffer. 6-bit digital or analog inputs converted to IBM computer tape. Sequential memory.	EECO 751-4
Magnetic Tape Adapter. Reads or writes GE ERMA and GE magnetic tapes from IBM 1401 Computer.	EECO 754
Data Recording System. Multiplexes analog inputs to IBM computer tape. Incremental tape unit.	EECO 755
Analog-to-Digital Converters. Up to 14 bits binary or 4 decimal digits and sign — 44 kc to 25 kc sample rate.	EECO 760A EECO 761
Multichannel Analog-to-Digital Converter. Up to 100 analog inputs. Output up to 14 bits binary or 4 BCD digits and sign.	EECO 762
Multichannel Digital-to-Analog Converter. Accepts digital inputs and provides up to 36 analog outputs.	EECO 764
Analog Multiplexer. 10 to 100 inputs. 50 millivolt to 5 volts. 100 megohm input impedance.	EECO 765
Shaft Angle Translator. Converts output from optical shaft angle encoder to degrees of angle. Both visual display and BCD outputs available.	EECO 780
Magnetic Core Memories. Random, Sequential or Sequential Interlace. 200 kc. Eight level. 128 to 4096 characters.	EECO 781 EECO 782 EECO 783
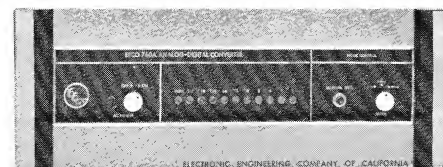
EECO 760A
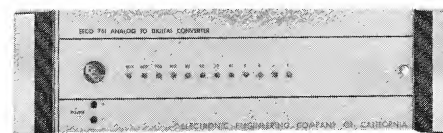
EECO 761
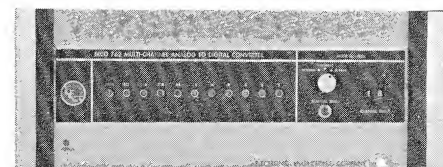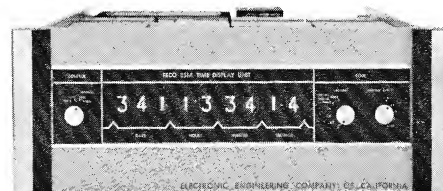

EECO 762
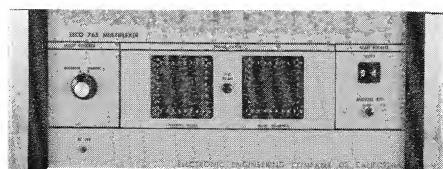
EECO 765

TIME DISPLAY UNITS

for displaying time recorded on magnetic tape

|	
These units read and display time from magnetic tape units operating at high or low speed in either forward or reverse direction. Used for data searching with manual control of the tape unit.	
Displays IRIG, NASA and other BCD time codes. AMR decoder available.	EECO 851
Same as EECO 851 except displays "on time" and reads through dropouts.	EECO 851A
Displays IRIG, NASA, AMR, PMR and other time codes using plug-in decode modules.	EECO 855

EECO 851A

SEARCH AND CONTROL SYSTEMS

for Magnetic Tape Recorders

Search and Control Systems automatically control analog tape recorders to search at high speed in either direction for selected portions of data on magnetic tape. The data on the tape is identified by a time code. This time code is displayed during search and playback.	
Automatic search system. Reads IRIG Formats A, B and C, NASA 36 and 28-bit and other BCD time codes. Selection of time code formats by front panel switch and simple patch connector change. Decoder unit for AMR D-5 is among standard options.	EECO 851A EECO 852
Automatic Universal search system. Reads IRIG, NASA, AMR, PMR, and other time codes. Selection of time codes by plug-in decode modules.	EECO 835
Combination time code generator and automatic search and control. Generates and reads 20-bit, 24 hour time code, modified IRIG B Format. Simultaneous slow code for graphic recorders.	EECO 858A EECO 859

EECO 835
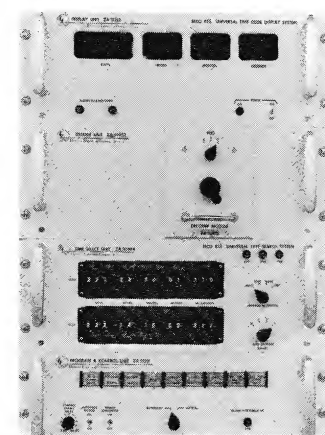
BATTERY BACK-UP POWER SYSTEM

Provides 300 va of continuous ac sine wave power regardless of ac power interruption. Uses 24 volt battery.	EECO 746
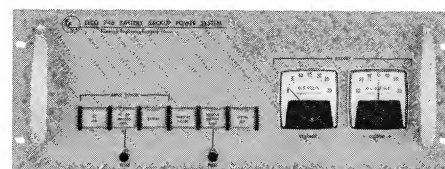
EECO 746

VLF RECEIVERS
for Synchronizing Timing Systems

Compares and corrects output frequency of local oscillator with reference to VLF carriers. Plots frequency deviation. Tunes from 10 kc to 30 kc and 60 kc. Electronic servo. Variable tracking rate.	EECO 880A
Similar to EECO 880A except modular construction for front access.	EECO 881
Loran-C Receiver. Fixed tuned to 100 kc. Provides accurate "on time" signal.	EECO 885

EECO 880A

EECO 881

EECO 885

FREQUENCY SYNTHESIZER
Signal generator for lab or field use

Output 1 kc to 100 kc in 100 cps steps. Sine, square, and triangular wave form outputs.	EECO 883

EECO 883

PUNCHED TAPE BLOCK READERS

Up to 160 bits per frame. Photoelectric readout. Up to 12 frames/sec. Silicon switching transistor output — up to 100 ma for each bit.	EECO 5000
Higher speed — up to 20 frames/sec. Photoelectric. Up to 160 bits per frame.	EECO 2500

EECO 5000

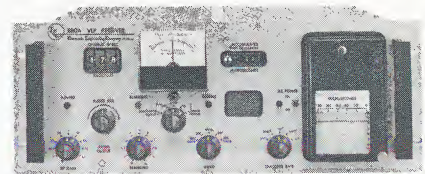# RUGGEDIZED MILITARY PUNCHED TAPE READERS

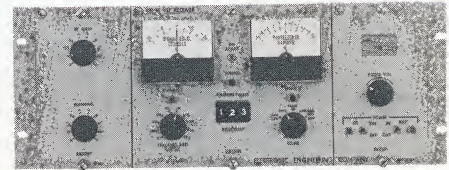|	
Photoelectric block reader — up to 160 bits/frame — up to 12 frames/sec. −40°C to +55°C.	EECO 2300 and EECO 2400
Photoelectric single line reader. 130 characters/sec. −40°C to +85°C — 10 g vibration to 500 cps.	EECO 3002

EECO 3002

SINGLE LINE PUNCHED TAPE READERS

Single-line reader for mobile application. 15 characters/sec — 3⅜" x 7¾" x 6½". 7½ lbs.	TP 531 W1
Single-line, slow speed reader. 30 characters/sec. Bidirectional.	TP 551

TP 531 W1

MISCELLANEOUS

Paper Tape Spooler. Bi-Directional—8" reels—up to 15 ips—1000 foot tape capacity.	TS-400
Relay Tester. For rapid test of pull-in and drop-out voltage and current, contact resistance, coil resistance, of relays.	RT 905
Test Sockets. Dual contact sockets for all standard relays using solder type terminals. For quick and accurate testing.	Ask for Catalog AS-3

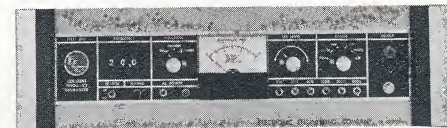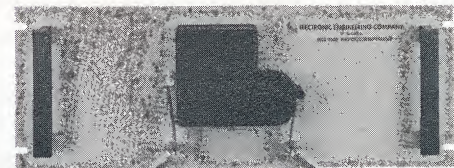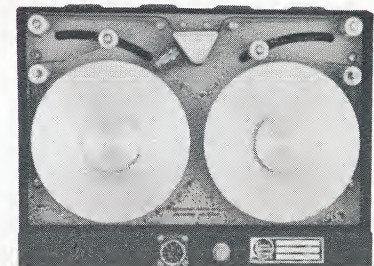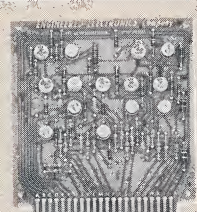**ENGINEERED ELECTRONICS Company** (division)

Produces digital circuit modules, IC logic assemblies, custom welded modules and EECoSWITCH rotary thumbwheel switches. Located at 1441 E. Chestnut Avenue, Santa Ana, California. Phone (714) 547-5651.

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